

CLAIMS

[1] A recording/reproduction terminal to which an encoding or decoding device is detachably connected and which records or reproduces a signal representing audio or video, said recording/reproduction terminal comprising:

a terminal information storage unit operable to store terminal information which is information regarding a recording/reproduction ability of the recording/reproduction terminal, and to output the terminal information to the encoding or decoding device when the encoding or decoding device is connected to said recording/reproduction terminal; and

a signal transmission unit operable to transmit, to the encoding or decoding device, the signal representing audio or video to be encoded, when the signal representing audio or video is recorded.

[2] The recording/reproduction terminal according to Claim 1, further comprising

storing encoded data obtained by encoding the signal representing audio or video into the encoding or decoding device.

[3] The recording/reproduction terminal according to Claim 2 wherein the terminal information includes information which indicates existence of a built-in encoding or decoding device built in said recording/reproduction terminal,

said recording/reproduction terminal making the encoding or decoding device encode the signal including audio or video, when the built-in encoding or decoding device does not exist.

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[4] The recording/reproduction terminal according to Claim 3 comprising

a reproduction unit operable to receive, from the encoding or decoding device, the signal representing audio or video which is obtained by decoding the encoded data stored in the encoding or decoding device by the encoding or decoding device, and to
5 reproduce the signal, when the built-in encoding or decoding device does not exist.

[5] The recording/reproduction terminal according to Claim 4,
wherein the terminal information includes coding format
10 information which indicates a coding format used by the built-in encoding or decoding device, said recording/reproduction terminal further comprising

a built-in encoding or decoding device which encodes or decodes the signal representing audio or video using a
15 predetermined coding format,

wherein said reproduction unit is operable to receive the signal including audio or video which is decoded by the encoding or decoding device, and to reproduce the signal when a coding format of the encoded data stored in the encoding or decoding device is
20 different from the coding format indicated in the coding format information, and

said built-in encoding or decoding device is operable to receive the encoded data without decoding the encoded data, and decode the data when the coding format of the encoded data stored
25 in the encoding or decoding device is the same as the coding format indicated in the coding format information.

[6] The recording/reproduction terminal according to Claim 2 further comprising:

30 a coding format notification receiving unit operable to receive from the encoding or decoding device a notification regarding selectable coding formats when the encoding or decoding device can

encode or decode using a plurality of coding formats which are different from one another; and

a coding format selection unit operable to display the plurality of coding formats notified by the encoding or decoding device and to receive selection of one coding format made by a user, and

wherein said recording/reproduction terminal makes the encoding or decoding device encode the signal representing audio or video using the coding format selected by the user.

10 [7] The recording/reproduction terminal according to Claim 2,
wherein the terminal information includes information which indicates existence of a built-in encoding or decoding device built in said recording/reproduction terminal, and a coding format information which indicates a coding format used by the built-in
15 encoding or decoding device when the built-in encoding or decoding device exists,

said recording/reproduction terminal comprising an encoded data receiving unit operable to (1) receive encoded data whose coding format is converted into a coding format indicated in the
20 coding format information when the coding format of the encoded data stored in the encoding or decoding device is different from the coding format indicated in the coding format information, and (2) receive the encoded data without converting the coding format of the encoded data, when the coding format of the encoded data
25 stored in the encoding or decoding device is the same as the coding format indicated in the coding format information.

[8] The recording/reproduction terminal according to Claim 1 further comprising:

30 a memory operable to provide a working area for encoding or decoding processing performed by the encoding or decoding device;
a memory use request receiving unit operable to receive a use

request for said memory from the encoding or decoding device; and
a memory control unit operable to make the encoding or
decoding device use a part or all of the area in said memory when
the use request is received.

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[9] The recording/reproduction terminal according to Claim 8
wherein the terminal information includes memory
information which indicates an available capacity of said memory in
said recording/reproduction terminal,

10 said recording/reproduction terminal further comprises an
available capacity detection unit operable to regularly detect the
available capacity of said memory, and

said memory control unit is operable to update the memory
information in the terminal information with a value of the newly
15 detected available capacity.

[10] An encoding or decoding device which is detachably
connected to a recording/reproduction terminal which records or
reproduces a signal representing audio or video, said encoding or
20 decoding device comprising:

a terminal information obtainment unit operable to obtain,
from the recording/reproduction terminal, terminal information
which is information regarding a recording/reproduction ability of
the recording/reproduction terminal when said encoding or decoding
25 device is connected to the recording/reproduction terminal; and

an encoding or decoding unit operable to encode or decode
the signal representing audio or video based on the obtained
terminal information.

30 [11] The encoding or decoding device according to Claim 10
further comprising

an encoded data storage unit operable to store encoded data

obtained by encoding the signal representing audio or video,
wherein said encoding or decoding unit is operable to encode
the signal representing audio or video and stores the encoded data
into said encoded data storage unit.

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[12] The encoding or decoding device according to Claim 11,
wherein the terminal information includes information which
indicates existence of a built-in encoding or decoding device built in
the recording/reproduction terminal, and a coding format
10 information which indicates a coding format used by the built-in
encoding or decoding device when the built-in encoding or decoding
device exists,

said encoding and decoding unit further includes
a trans-coding unit operable to (1) convert a coding format of
15 the encoded data stored in said encoded data storage unit into a
coding format indicated in the coding format information when the
coding format of the encoded data is different from the coding
format indicated in the coding format information, and (2) transmit
the encoded data without converting the coding format of the
20 encoded data, to the recording/reproduction terminal when the
coding format of the encoded data is the same as the coding format
indicated in the coding format information.

[13] The encoding or decoding device according to Claim 11,
25 wherein said encoding or decoding unit includes a plurality of
encoding or decoding sub-units which encodes or decodes using
coding formats which are different from one another, and

said encoding or decoding unit is operable to encode the
signal representing audio or video by an encoding or decoding
30 sub-unit whose coding format has the least number of bits of the
encoded data among the plurality of the coding formats.

[14] The encoding or decoding device according to Claim 11,
wherein the terminal information includes information which
indicates a maximum data transfer amount per unit time between
the recording/reproduction terminal and said encoding or decoding
5 device, and

said encoding or decoding unit is operable to convert,
depending on the information indicating the maximum data transfer
amount, at least one of a frame rate and resolution of a decoded
moving picture signal so that a data amount per unit time of the
10 moving picture signal does not exceed the maximum data transfer
amount, when the moving picture signal is decoded from the
encoded data in said encoded data storage unit.

[15] The encoding or decoding device according to Claim 11,
15 wherein the terminal information includes resolution
information which indicates appropriate resolution used in said
reproduction unit, and

said encoding or decoding unit is operable to convert
resolution of the moving picture signal decoded depending on the
20 resolution information into the appropriate resolution, when the
moving picture signal is decoded from the encoded data in said
encoded data storage unit.

[16] The encoding or decoding device according to Claim 11
25 further comprising

a signal receiving unit operable to receive, from the
recording/reproduction terminal, a signal to be stored into said
encoded data storage unit

wherein said encoding or decoding unit is operable to store
30 the received signal without coding the received signal, when the
signal is encoded data.

[17] The encoding or decoding device according to Claim 11,
wherein said encoding or decoding unit is operable to convert
at least one of a frame rate and resolution of the moving picture
signal depending on an available capacity of said encoded data
5 storage unit when the signal including audio or video is the moving
picture signal, and to encode the converted signal.

[18] The encoding or decoding device according to Claim 11,
wherein said encoded data storage unit is included in a
10 memory card which is detachably connected to said encoding or
decoding device.

[19] The encoding or decoding device according to Claim 10,
wherein said encoding or decoding unit is operable to perform
15 at least one of video encoding, video decoding, audio encoding,
audio decoding, video trans-coding, and audio trans-coding.

[20] The encoding or decoding device according to Claim 10,
wherein the terminal information includes memory
20 information which indicates existence of a memory which is able to
be used by said encoding or decoding device and which is built in the
recording/reproduction terminal, and

said encoding or decoding unit is operable to request the
recording/reproduction terminal for use of said memory, when the
25 signal including audio or video is a moving picture signal and the
memory built in the recording/reproduction terminal exists.

[21] The encoding or decoding device according to Claim 10,
wherein the terminal information includes memory
30 information which indicates a capacity of said memory which is able
to be used by said encoding or decoding device and which is built in
the recording/reproduction terminal, and

said encoding or decoding unit is operable to request the recording/reproduction terminal for use of said memory depending on a size of a picture to be encoded or decoded and the capacity of said memory indicated in the terminal information, when the signal
5 including audio or video is a moving picture signal.

[22] An integrated circuit which is embedded with an encoding or decoding device which is detachably connected to a recording/reproduction terminal which records or reproduces a
10 signal representing audio or video, said integrated circuit comprising:

a terminal information obtainment unit operable to obtain, from the recording/reproduction terminal, terminal information which is information regarding a recording/reproduction ability of
15 the recording/reproduction terminal when the encoding or decoding device is connected to the recording/reproduction terminal; and

an encoding or decoding unit operable to encode or decode the signal representing audio or video based on the obtained terminal information.

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[23] A recording/reproduction method performed by a recording/reproduction terminal to which an encoding or decoding device is detachably connected and which records or reproduces a signal representing audio or video, said method comprising:

25 storing previously, into a storage unit, terminal information which is information regarding a recording/reproduction ability of the recording/reproduction terminal, and outputting the terminal information to the encoding or decoding device when the encoding or decoding device is connected to the recording/reproduction
30 terminal; and

encoding the signal representing audio or video to be encoded by transmitting the signal to the encoding or decoding device, when

the signal representing audio or video is recorded onto the recording/reproduction terminal.